

USAID Leland Initiative (698-0565)

**School-to-School Partnership
Summary of Findings and Plan of Action**

Prepared for
USAID/Accra
USAID, AFR/SD

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Executive Summary

The purpose of the Leland Initiative's School-to-School Partnership program in Ghana is to facilitate skill development and cross-cultural learning by encouraging dialogue between primary and secondary schools in Africa and those in the United States, via the Internet. For the first week of October and the first week of November, the foundation was laid for the Partnership with six schools in Accra, from which projects are developing and academic uses for the Internet are being explored.

Ghana has begun this Partnership with the Ghana International School (GIS) and the Lincoln Community School, and three identified partner schools in the United States. As they develop projects and incorporate Internet technologies into their classrooms, they will assist other selected Ghanaian schools -identified as having the interest and potential hardware capability- in using the Internet and developing partnerships of their own. In this way, a broader academic user group will evolve, and act as a resource for other Ghanaian schools interested in these technologies.

This Partnership represents a logical link to the GLOBE Program for those schools that are looking to enhance their science courses using the Internet. The schools contacted for the Partnership were given a brief introduction to this program as a means of surveying their interest.

Introduction

The Leland Initiative's School-to-School Partnership aims to facilitate dialogue and projects between African primary and secondary schools in countries where this Initiative is active, and where similar goals are adopted in schools in the United States. In African countries, this Initiative, in conjunction with the USAID mission's bilateral funds, may assist schools in becoming aware of the academic uses of the Internet, and in acquiring the hardware and training needed to participate in this Partnership.

Justification

The benefits of the Leland Initiative's School-to-School Partnership are four-fold. First, it gives students a meaningful introduction to new technologies and provides them with the skills and the means to access and provide resources previously unavailable due to high communications costs and lack of communications technologies in Africa. Second, it benefits faculty and administrators in developing their skills and provides them with the resources to further develop their curricula and their own professional development. Third, the dialogue and projects created through this Partnership will enrich the much-needed African resources on the Internet, creating more information about Africa and its relevance to other regions of the world. These are linkages essential to today's global economy, the means by which Africa will leapfrog into the 21st century. Lastly, in developing the skills of the participants, this Partnership cultivates the current and future markets for these technologies. The School-to-School Partnership contributes to developing the long term end user base for the Internet and it can potentially help develop human resources at the country level, complimenting other Leland SO3 activities in Ghana.

Methodology

I spent two separate weeks in Accra, September 29-October 4 and November 6-12, as you'll see from the notes below. In November, Laura Brodrick had just been hired as USAID/Accra's Leland Coordinator, and we worked together for that week with the schools, building on what had been started the previous month.

First Tier

October: I had separate meetings with Mr. James Nkansah from the Ghana International School and Ms. Linda Young-Ribeiro from the Lincoln Community School in which we discussed the Partnership. Though Ms. Young-Ribeiro is currently planning to incorporate Internet technologies in all grade levels at Lincoln, the teachers at GIS have not yet been introduced to the Internet. Mr. Nkansah, with the help of Ms. Sawyerr, GIS Director, selected a number of interested teachers for an Internet demonstration (see Annex A). With the help of Ms. Young-Ribeiro, who is familiar with Internet resources for teachers, the discussion laid the groundwork for their involvement with the School-to-School Partnership. There is clearly a core group of teachers that will take ownership of the Partnership.

November: Laura and I met with Lincoln and GIS, to offer assistance in furthering the School-to-School Partnership activities. These first tier schools are still exploring networking possibilities for their computers, to enhance Internet usage.

Second Tier

October: With the help of Ms.Young-Ribeiro, I was able to identify four other private Ghanaian schools that will soon have an Internet connection. There are other schools that I did not have time to visit that should be considered as well (listed in attached matrix, p.9). I used a survey to identify what information tools each school is using, how they use alternatives to traditional classroom methodologies to teach their lessons, and what they perceive their information needs to be at this time. In this way, future activities can be designed to suit the needs and interests of these schools. Among those schools identified, Soul Clinic School and Morning Star School came to USAID to "surf the 'net" for several hours, and looked for information on Africa to supplement their social studies resources. They left with an idea of what kind of resource the Internet is, the vast amount of information it contains, and how it pertains to their needs. In this way, they can further consider how to incorporate it into their curricula while they acquire needed hardware.

November: Laura and I met with Soul Clinic School, Morning Star School, and the University Primary and Junior Secondary School, to offer assistance in furthering the School-to-School Partnership activities. These second tier schools are still exploring funding options for their Internet connections.

Debriefing

October: Eight people attended the debrief I gave Friday, October 4, at 11:00 a.m. I introduced the Partnership, explained how it relates to the Leland Initiative, and gave the preliminary findings of my TDY. Deputy Director Bill Jeffers was then able to review the current status of Leland activities, and how to proceed. It was decided to hire locally for a Leland coordinator, as soon as possible, and request funding from the Leland Initiative for this position.

November: I returned to Ghana for the purpose of introducing Laura to the specifics of the Leland Initiative, clarifying her role as Coordinator, and introducing her to the School-to-School Partnership players.

Findings

General

The general public has some idea of what the Internet is, but few have considered using it in the academic setting. Previously identified first tier (GIS, Lincoln, University of Legon) have the advantage of relations with Western institutions, and knowledge about the internet as an academic resource. The second tier schools identified here use the Ghanaian curriculum, with some enhancement. Due to the lack of resources in Ghana, schools need to incorporate a variety of activities into their teaching strategies to supplement traditional classroom

learning. The administrators of several of these second tier institutions collaborate with one another as the consortium of top private schools in the area, and administer joint teacher in-service training and other activities. These second tier schools all identified reference materials, current events and curriculum ideas as information needs, and cost and acquisition of hardware as barriers. Their admission policies allow for a diverse student body, and they provide scholarships for selected students who cannot afford the tuition.

First Tier

Ghana International School

Judith Sawyerr, Director, jsawyerr@gis.aau.org/gis@ncs.com.gh

James Nkansah, Head of Information Technology Department, itdept@gis.aau.org

tel: 233.021.773-299/777-163/775-143

fax: 233.021.774-379

PO Box 2856

Accra, Ghana

October: USAID has just begun funding the Ghana International School's first year Internet subscription fees to Network Computer Systems, to facilitate their use of the Internet. GIS' push towards integrating computer technologies into their curricula began over a year ago, at the recommendation of the Board of Directors. They currently have two computer labs, one for the primary school with 24 PCs, and one for the secondary school with 34 PCs. Their computers are networked to a Novell LAN.

To date, they have been teaching students at the secondary levels word processing, spreadsheets and database development, and encourage them to apply these skills to other subject areas. The computer labs stay open after school hours during the week and on Saturdays. There are also 4 multi-media computers in the secondary school library and one in the primary school library, all available to both students and faculty, with the plan to install one multi-media computer in each classroom.

Ms. Sawyerr expressed interest in the GLOBE Program for elementary and middle school levels. Because of GIS' adherence to the British curriculum, older students are too busy studying for exams to incorporate this supplementary activity.

November: As of November 12th, GIS had one computer connected to the Internet, though with the possibility for multi-user capabilities with their Internet Service Provider, Network Computer Systems. Laura is assisting to explore low cost options for the networking. Though the members of the Information Technology Department staff are using the Internet regularly, the teaching staff will begin Internet training once the school is on a network. Mr. Nkansah has been collaborating with Linda Young-Ribeiro at Lincoln to identify teacher resources.

Lincoln Community School

Merry Wade, Director, lincoln@ncs.com.gh

Linda Young-Ribeiro, Computer Science Teacher, linda@ncs.com.gh

tel/fax: 233.021.774-018

c/o U.S. Embassy, Accra

Department of State

Washington, D.C. 20521-2020

October: Lincoln was recently connected to the Internet, through Network Computer Systems. Though the introduction by NCS was minimal, Mike Yard (a USAID contractor) continues to provide technical support.

Lincoln is looking to integrate Internet technologies from grades 4 through 12, with special attention to the high school curriculum. This resource will be instrumental in the students' search for colleges, as well as in their career planning. The skills they acquire using this technology will also be a selling point for them when applying to colleges and universities. With the lower grades, Lincoln is looking at a variety of projects for both faculty and students.

Lincoln is currently collaborating with a Ghanaian school, sharing resources and attending joint teacher in-service sessions. They promote information sharing at all levels, and see the Internet as a way of making teachers of their students. They are also considering the GLOBE Program, though they too must wait for the signing of the GLOBE MOU.

November: Lincoln became fully connected to the Internet on the 7th of November, and will now focus on teacher training, followed by introducing students to the Internet. They are currently using MacWeb, as NCS does not have the latest version of Netscape for its users. They will be installing another connection, then networking the two computers; Laura has recently assisted Linda with some technical questions, and offered continued support. In terms of content, Linda is already developing projects for student use, and will be incorporating them into her classes as soon as possible. She is currently developing an Acceptable Use Policy for the students.

Note: Having spoken at length (on November 4th) with the Computer and Math teacher at the American School of Antananarivo, Pam Briskman, I relayed to Linda Pam's activities and plans for the use of the Internet, and her contact information (tel: (261) 2 420 39; e-mail: humuhumu@bow.dts.mg).

Second Tier

Soul Clinic International School

Reverend Vincent McCauley, Director

Willie Djangmah, Computer Science Teacher and Technician

tel/fax: 233.021.774-058; (res tel): 233.021.712-476

P.O. Box 13073

Accra, Ghana

October: Reverend McCauley has a true appreciation for the value of a good education, and is constantly looking to improve his facilities. He just built a new building that houses the library and science laboratory. He recently received five Apple computers (multimedia) as a donation from a parent (though the manuals are in Dutch) and he is expecting two more. He incorporated CD-ROMs into his social studies classes, with geography programs and CD encyclopedias. He is very excited about the potential of the Internet in the classroom and he is willing to make the investment necessary (within reason) to bring this technology to his students.

As a member of a seven school consortium of private schools in the area, Reverend McCauley is a strong advocate for information sharing, and has expressed interest in hosting fora to show other schools' administrators the value of the Internet in academics once he has become comfortable with the technology. Members of this consortium currently collaborate in teacher training activities and meet regularly, and most member schools are in the process of creating computer laboratories.

November: Ghanaian schools are undergoing another revision of the GES (Ghana Education Service) curriculum, where they are combining several subjects and reducing the number required. Reverend McCauley still strongly supports the idea of the Internet as a learning tool for students, teachers, and administrators, as well as creating the fora for information sharing. However, as he has just invested in a new library and science laboratory, he is concerned about the start-up and the continuing costs. Laura will make available information on start-up costs based on the number of Internet connections, as well as information on the services provided by each Internet Service Provider in Ghana.

Mr. Djangmah, the Computer Science teacher, was enthusiastic about Fred Reindorf's ideas (see below) for a local interface, and thought that it would be valuable to the academic institutions, and will help reach the goals of the School-to-School Partnership.

Morning Star School

Ms. Kwakye, Director

JB Siriboe, Managing Director

Peter Nawurah, Computer Science Teacher

Ama Ofori, Computer Science Teacher

tel: 233.021.775-979

C737 Cantonment

Accra, Ghana

October: Morning Star was founded in 1965 and their only source of funding is tuition. There are 90 on the staff, and 1780 students enrolled, grades kindergarten through ninth. Although they adhere to the Ghanaian curriculum, they enhance it in order to be compatible with the academic standards of the United States and the United Kingdom. They use

resources throughout Accra to supplement classroom learning, and their latest major research project among the primary school levels was on the communications sector in Ghana.

Mr. Nawurah joined us for the Internet demonstration at USAID, for his first experience using the Internet (but had read about it and seen it on CNN), and Morning Star hadn't yet considered incorporating it into their curriculum. They are currently in the beginning stages of teaching computers, with an introductory course to students of all levels. They are very much interested in joining the School-to-School Partnership, and incorporating Internet technologies into their curriculum. Having taught in the United States for eight years, Mrs. Kwakye has a partner school in mind, Barnett Schulls Elementary School in Athens, Georgia.

Morning Star School has about 40 PCs networked to a Novell LAN, and they are looking for a way of getting Internet connectivity to that network. I advised Mr. Nawurah to talk to Mr. Nkansah at GIS, as GIS is using the same kind of LAN.

November: Though Morning Star will be incorporating the Internet into its computer science curriculum and its research facilities, the timing depends on the cost. Having recently invested £60,000 in the hardware for their new computer lab, and planned for investing in CD-ROMs for all grades and subject areas (though Laura told them about shareware), they are cautious in investing in Internet connectivity in the very near future because of their own budget constraints.

They inquired about the financial help that the Partnership offers, citing the high chance of a good return in the investment with Morning Star School. Laura and I explained the goals of the Partnership and USAID's role as coordinator and facilitator. We also explained the need for the little existent funding to go to schools that do not have the advantages of the private institutions. Morning Star School has a strong PTA, with a history of supporting the school's new programs.

University Primary and Junior Secondary Schools

University of Legon

Mr. E.Y. Attuua-Afari, Headmaster

tel: 233.021.500-175

P.O. Box 15

Legon, Ghana

October: The University Primary and Junior Secondary Schools are very interested in full Internet connectivity. The Primary School has an email exchange with a Swiss school. Mr. Attuua-Afari has asked for a dedicated telephone line for Internet use only, as they intend to acquire full Web access. Their three computers are located in the library, which is common to both the primary and secondary schools. Mr. Attuua-Afari works closely with the University's technical people, which makes these schools an ideal way to integrate the School-to-School Partnership with Leland SO3's pilot activity with the University. A return trip to further discuss the Partnership and administer the survey is necessary.

November: The University Primary and Junior Secondary School has over 2000 students, and a faculty of 45. As a public school, they do not charge tuition, though priority for admission is given to children of University of Legon employees. The school has a variety of after-school programs and field trips and they often recruit faculty from the University of Legon to speak to their classes about topics being studied. They also include video and audio tapes in their classroom activities. At the beginning of the year, for those in the final Secondary School classes, a variety of professionals are brought in for Career Day, where they discuss their professions and the academic requirements. The library, though not large, includes resources that are available for check-out on a variety of subjects. They encourage their students to use their community libraries and the library at the British Counsel.

Though the school's relationship with the University's technical support staff is a good one, they have yet to receive University support for computer equipment. However, they have a strong PTA that has already provided the schools with three computers. Teachers are interested in the Internet, and as they are responsible for identifying supplemental resources for their classes, this will be a worthwhile investment. They currently primarily use Baum Library, at the University. The school's phone line has been wired to the library as well as the main office, as they used email regularly through the University until their modem had a blow out. They requested a new modem from the University in September, and are in need of a surge protector.

Ridge Church School

Pauline Ado, Director
Patricia Ayitiah, Assistant Head
Joshua Howard, Librarian
tel: 233.021.222-962
P.O. Box 2316
Accra, Ghana

Ridge Church School has 1078 students, first grade through Junior Secondary (Middle) School. They use a well rounded curriculum that incorporates resources from the parent and church communities. However, their access to funding and technological resources is very limited. They have plans to create a computer lab but they lack the resources to pay for the building or computers. They currently have one telephone line, but have requested two more, in anticipation of Internet activity.

Joshua Howard was particularly interested in the Internet, and the administrators had an appreciation for its importance to education. Ridge Church School needs a lot of initial capital investment to introduce Internet technologies to the students and staff, but the ideology seems to be in place.

**Summary Results of School-to-School Partnership Assessment
September-November 1996; Accra, Ghana**

		Information Strategy: Recognize the Importance of Acquiring and Sharing Information	Currently Encouraging the Students to Use a Variety of Sources of Information	Recognize Potential contribution of Internet to Quality of Education	Champion - Identified Individual to Serve as Catalyst / Enthusiast for Internet	Telecommunications and Computer Infrastructure; Equipment and Technical Support Staff
1st Tier	GIS	medium	high	medium	medium	high
	Lincoln Sch	high	high	high	high	high
2nd Tier	Soul Clinic Sch	high	high	high	high	medium
	Morning Star Sch	high	high	medium	high	high
	Ridge Church Sch	medium	high	low	high	low
	University Primary and Junior Sec Sch	medium	medium	medium	unknown	medium
	Achimota College					
	Save Our Souls					
	Ministry of Defense Schools					
	LaboneSenSecSch					
	Alsud Academy					
	Wesley Girls' Sch					

The GLOBE Program

The required Memorandum of Understanding has not yet been signed by the Government of Ghana and the Government of the United States for this program, though Jim Freund of the U.S. Embassy did attempt to push it through some time ago. There is interest in the schools I spoke with, especially given the lack of resources for laboratory equipment and subsequent difficulties in administering the science curricula. This is an especially good program for Ghana, as science equipment is scarce, and the program provides curriculum supplements for all levels of science classes. It is clear that an individual in the American community needs to take responsibility for this, or it may never happen. Ghanaian schools interested in this program may also be able to pressure the government into signing. There is no exchange of resources in the GLOBE MOU: it is merely protocol.

November: I have requested that GLOBE packages be sent to Laura for her use and for distribution to interested schools. We decided not to introduce the GLOBE MOU to the Ghanaian Government until the Leland MOU has been finalized and signed, to minimize confusion. Then, Laura will again solicit the help of Jim Freund, as the GLOBE MOU does not involve the provision of materials or financial assistance, but rather establishes a relationship for a successful science program. It therefore seems more appropriate for the U.S. Embassy to represent this MOU.

US School-to-School Schools

Sidwell Friends (Washington, DC), Piney Branch Elementary School (Takoma Park, MD), and River Oaks Elementary School (Houston, TX) have all been contacted via email about the Partnership. The Gore and the Clinton children attend Sidwell and the Lelands' son attends River Oaks. Preliminary discussions have taken place about the technical capacity of each school, as well as their ideas for the nature of Partnership activities (grade levels, subject areas). Now that GIS and Lincoln School are included in that email loop, we hope to have an action plan drafted in November.

Other Potential School-to-School Partnership Players

Network Computer Systems, <http://www.ghana.com>

Nii Narku Quaynor, Executive Chairman, quaynor@ncs.com.gh

William Tevie, Deputy Director, Systems, tevie@ncs.com.gh

tel/fax:: 233.021.220-622/225-472/300-340/772-279

7 Sixth Avenue, Ridge

Private Mail Bag, Osu

Accra, Ghana

October: After reviewing the School-to-School Partnership, Mr. Quaynor and Mr. Tevie voiced their support for the importance of introducing Internet technologies to children at a young age. They offered their services and facilities (though no specific arrangements were discussed) they have creative ideas about getting students involved in teaching one another about the Internet. Given the nature of the project, and their support for further development of the Ghanaian end-user base, they were happy to make school connectivity a priority. They

have since provided support to GIS and Lincoln, and have been useful in exploring Lincoln's need for computer networking. They are also investigating donor interest in supporting academic institutions' connectivity to the Internet.

NCS is an Internet Service Provider with over 1000 subscribers. They also sell and maintain hardware as a representative of Digital (based in Massachusetts), and they provide training to new users. Furthermore, they sponsor seminars on computer use every two months, and Internet user fora quarterly.

November: NCS has dropped their subscription fee to \$45.00 per month.

University of Ghana

Barfi-Adomako Owusu , Systems Administrator, barfi@ug.gh.apr.org
Mr. Mumuni Dakubu, Chemistry professor, member of working group
tel: 233.021.30.23.47
mobile: 233.027.54.16.29 (Barfi)
P.O. Box 24
Legon, Ghana

October: The University currently provides email service to over 110 users from all eight regions of Ghana, including other universities. Their fees are minimal: just enough to cover costs. The University has an information technology working group of six people, that act in an advisory capacity. The university is aiming to become GARNET, the Ghana Academic Research Network, and to control the "edu.gh" domain. This way, they can provide discounted services to educational institutions through Ghana.

The University is a Leland Initiative pilot program through the USAID/Ghana's Population Strategic Objective. The project will include getting the University completely online, though the parameters have yet to be completely defined.

West Africa Online Company Limited

Ghana Network for Information Exchange (GeNIE)
Fred Reindorf
tel: 233.021.760-125
fax: 223.021.773-609
mobile 233.028.213215
P.O. Box 13060
Accra, Ghana

November: Mr. Reindorf asked for an appointment with Laura and myself to discuss how his planned interface could be of benefit to the School-to-School Partnership. The interface would be a user-friendly resource for academic institutions, helping teachers, students and administrators to use the Internet for their academic goals. They are looking to develop these for many different user groups, including development organizations and private sector

institutions.

Laura and I explained USAID's role as a coordinator and facilitator of the Internet initiatives in the country and the continent, and explained how that function can be of use to GeNIE.

GeNIE will begin its services in Ghana and they aim to establish franchises in other Anglophone West African countries as well. Mr. Reindorf worked for American Online, from which he plans to model his service. He is using the NCS gateway (leasing 32K of bandwidth), though he will be able to provide his service through all Ghanaian ISPs. His service will begin at \$10 per month plus online time charges, with the first hour free; or, \$50 with 5 free hours. GeNIE will specialize in Ghanaian and West African information, and has room for up to 10,000 fora -- which will be made available at no charge to users.

GeNIE anticipates partnerships with local information/communication centers to provide Internet access more easily to the general public, by not requiring the purchase of hardware. They are also considering reduced costs to academic institutions, as well as providing reduced cost equipment through NCS connections in the United States. NCS will provide technical support for this service and they will clearly benefit from this arrangement, as GeNIE is the user-friendly application component of NCS' Internet service.

ANNEX A: School-to-School Partnership, Ghana
Introduction to the Internet, Discussion

Ghana International School
Lincoln Community School
2:00 pm; October 4, 1996

- I. Introduction to Leland, and the School-to-School Partnership
- II. Introduction to the Internet, and Netscape
- III. Discussion
 - A. Current Uses of Technologies in the Classroom
 - B. Current Information Needs
- IV. Search the Internet for Information for Several Current Needs
- V. Discuss potential for Integrating the Internet into Current Curriculum
- VI. Discuss Potential of Partnership with US Schools
 - A. Piney Branch Elementary, Takoma Park, MD - Richard Ashford
rashford@umd5.umd.edu
 - B. Sidwell Friends, Washington, DC - David Wood
sidwell@igc.apc.org
 - C. River Oaks Elementary, Houston, TX - Michelle Pola
mpola@tenet.edu
- VII. Next Steps
 - A. Begin Dialogue with US Schools
 - B. Internet Training
 - C. Discuss Strategy for Second Tier schools
 - 1. Soul Clinic School, Reverend McCauley, 774-058
 - 2. Morning Star School, Mrs. Kwakye, 775-979
 - 3. University Primary and Junior Secondary School, Mr. Attuaa-Afari, 500-175
 - 4. Ridge Church School, Mrs. Patricia Ayitiah and Mr. Joshua Howard, 222-962
 - D. Next meeting?